



CONTENTS

MECHANISMS OF ACTION OF DRUGS AND CHEMICALS

- Asbestos: Mechanisms of Toxicity and Carcinogenicity
in the Respiratory Tract, *B. Mossman, W. Light, and
E. Wei* 595-615

STRUCTURE-ACTIVITY RELATIONSHIPS AND MEDICINAL CHEMISTRY

- Structure-Activity Relationships of Dopamine Agonists,
Joseph G. Cannon 103-30

METABOLIC FATE OF DRUGS AND CHEMICALS

- Localization of Metabolic Activation and Deactivation
Systems in the Lung: Significance to the Pulmonary
Toxicity of Xenobiotics, *R. F. Minchin and M. R. Boyd* 217-38
- Suicidal Destruction of Cytochrome P-450 During
Oxidative Drug Metabolism, *Paul R. Ortiz
de Montellano and Maria Almira Correia* 481-503

ANTIMICROBIAL, ANTIVIRAL, AND ANTIPARASITE CHEMOTHERAPY

- Antifungal Agents Useful in Therapy of Systemic Fungal
Infections, *G. Medoff, J. Brajtburg, and G. S. Kobayashi* 303-31

CANCER CHEMOTHERAPY AND IMMUNOPHARMACOLOGY

- Superoxide Radical: An Endogenous Toxicant, *Irwin
Fridovich* 239-57

CARDIOVASCULAR PHARMACOLOGY

- Beta Receptor Blocking Agents in the Secondary
Prevention of Coronary Heart Disease, *J. Anders Vedin
and Claes E. Wilhelmsson* 29-44
- Mechanisms of Calcium Antagonist-Induced Vasodilation,
*Cynthia Cauvin, Rodger Loutzenhiser, and Cornelis Van
Breemen* 373-96
- Cardiovascular Effects of Endogenous Opiate Systems,
John W. Holaday 541-94

(continued)

CONTENTS (continued)

RENAL PHARMACOLOGY

- Pharmacodynamic Considerations in the Use of Diuretics,
D. Craig Brater 45-62
- Transport of Organic Anions and Cations in Isolated
Renal Plasma Membranes, *C. R. Ross and P. D.
Holohan* 65-85

NEUROPHARMACOLOGY AND NEUROCHEMISTRY

- Nonopioid Neuropeptides in Mammalian CNS, *Leslie L.
Iversen* 1-27
- The Endorphins: A Growing Family of Pharmacologically
Pertinent Peptides, *Floyd E. Bloom* 151-70

AUTONOMIC PHARMACOLOGY

- Insulin Receptors, *Steven Jacobs and Pedro Cuatrecasas* 461-79

NEUROMUSCULAR PHARMACOLOGY

- Drug-Induced Modification of Ionic Conductance at the
Neuromuscular Junction, *Jeremy J. Lambert, Nicholas
N. Durant, and Edward G. Henderson* 505-39

SMOOTH MUSCLE PHARMACOLOGY

- Prostaglandins and Nonsteroidal Antiinflammatory Drugs
in Dysmenorrhea, *W. Y. Chan* 131-49

ANESTHETICS, ANALGESICS, AND ANTIINFLAMMATORY AGENTS

- Biosynthesis of the Enkephalins and
Enkephalin-Containing Polypeptides, *Randolph V. Lewis
and Alvin S. Stern* 353-72
- New Peripherally-Acting Oral Analgesic Agents, *Stephen
A. Cooper* 617-47

ENDOCRINE PHARMACOLOGY

- Central Control of Prolactin and Estrogen Receptors in
Rat Liver—Expression of a Novel Endocrine System,
the Hypothalamo-Pituitary-Liver Axis, *Jan-Åke
Gustafsson, Agneta Mode, Gunnar Norstedt, Peter
Eneroth, and Tomas Hökfelt* 259-78

ALLERGY AND DRUG SENSITIVITY

- Agents that Release Histamine from Mast Cells, *D.
Lagunoff, T. W. Martin, and G. Read* 331-51

(continued)

CONTENTS (continued)

PHARMACOLOGICALLY ACTIVE NATURAL SUBSTANCES

- Purinergerg Neurotransmission and Neuromodulation,
Che Su 397-411

- Mechanisms of Selective Action of Pyrethroid Insecticides,
John E. Casida, Derek W. Gammon, Andrew H. Glickman, and Lowell J. Lawrence 413-38

COMPARATIVE PHARMACOLOGY

- The Activity of Sulfonamides and Anions Against the
Carbonic Anhydrases of Animals, Plants, and Bacteria,
Thomas H. Maren and Gautam Sanyal 439-59

ENVIRONMENTAL AND INDUSTRIAL PHARMACOLOGY AND TOXICOLOGY

- DMSA and DMPS—Water Soluble Antidotes for Heavy
Metal Poisoning, *H. Vasken Aposhian* 193-215

CLINICAL TOXICOLOGY AND DRUG INTERACTIONS

- The Treatment of Acetaminophen Poisoning, *L. F. Prescott
and J. A. J. H. Critchley* 87-101

TECHNIQUES

- Recent Developments in Mass Spectrometry for the
Analysis of Complex Mixtures, *Bertha L. Proctor* 171-92

GASTROINTESTINAL PHARMACOLOGY

- Pharmacology of Antidiarrheal Drugs, *F. Awouters, C. J.
E. Niemegeers, and P. A. J. Janssen* 279-301

REVIEW OF REVIEWS

- Review of Reviews, *E. Leong Way* 649-56

INDEXES

- Author Index 657
Subject Index 689
Cumulative Index of Contributing Authors, Volumes 19-23 706
Cumulative Index of Chapter Titles, Volumes 19-23 708

CUMULATIVE INDEXES

CONTRIBUTING AUTHORS, VOLUMES 19-23

A

Abou-Donia, M. B., 21:511-48
Anderson, T. F., 20:235-57
Andresen, B. D., 21:575-96
Antonaccio, M. J., 22:57-87
Aposhian, H. V., 23:193-215
Atkinson, A. J. Jr., 19:105-27
Awouters, F., 23:279-301

B

Baillie, M. D., 19:491-509
Beaumont, A., 19:245-67
Benet, L. Z., 20:389-413
Bianchini, J. R., 21:575-96
Bird, E. D., 20:533-51
Blaschko, H. K. F., 20:1-14
Bloom, F. E., 23:151-70
Bolard, J., 23:303-30
Bolender, R. P., 21:549-73
Bourne, H. R., 21:251-64
Boyd, M. R., 23:217-38
Brajtburg, J., 23:303-31
Brammer, G. L., 22:643-61
Brater, D. C., 23:45-62
Brezinoff, H. E., 22:341-81
Brown, R. D., 18:233-52

C

Camitta, B. M., 21:231-49
Cannon, J. G., 23:103-30
Carr, C. J., 22:19-29
Casida, J. E., 413-38
Catterall, W. A., 20:15-43
Cauvin, C., 23:373-96
Chan, W. Y., 23:131-49
Chapman, D. B., 20:553-79
Chatterjee, K., 20:457-512
Chen, K. K., 21:1-6
Cooper, S. A., 23:617-47
Correa, M. A., 23:481-503
Costa, E., 19:531-45
Couri, D., 22:145-66
Creese, I., 21:357-91
Critchley, J. A. J. H., 23:87-101
Cuatrecasas, P., 23:461-79

D

Dau, P., 20:337-62
Davis, H. P., 21:323-56
Deitrich, R., 20:55-80
Dixon, W. J., 20:441-62
Drayer, D. E., 20:45-54
Duran, D. O., 21:575-96
Durant, N. N., 23:505-39

E

Eisen, H. J., 21:431-62
Eneanya, D. I., 21:575-96
Eneroth, P., 23:259-78
Erwin, V., 20:55-80
Evans, R. H., 21:165-204

F

Fahim, M., 22:465-90
Farfel, Z., 21:251-64
Fauci, A. S., 19:179-201
Fleming, W. W., 20:129-49
Foreman, J. C., 21:63-81
Freireich, E. J., 19:547-57
Freis, E. D., 19:13-23
Fridovich, I., 23:239-57
Fuller, R. W., 20:111-27, 22:31-55

G

Gammon, D. W., 23:413-38
Giuliano, R., 22:341-81
Glass, D. B., 20:363-88
Glickman, A. H., 23:413-38
Green, T. P., 19:285-322
Greenblatt, D. J., 19:347-56
Guidotti, A., 19:531-45
Gundersen, C. B. Jr., 20:307-36
Gustafson, J.-Å., 23:259-78
Guth, P. S., 22:383-412
Guzelian, P. S., 22:89-113

H

Halpert, J., 22:321-39
Han, J. S., 22:193-220

Harper, G. P., 21:205-29
Harris, R. A., 21:83-111
Henderson, E. G., 23:505-39
Herbette, L., 22:413-34
Hirschowitz, B. I., 19:203-44
Hjelmeland, L. M., 21:431-62
Ho, I. K., 21:83-111
Hökfelt, T., 23:259-78
Hoffman, B. B., 20:581-608
Holaday, J. W., 23:541-94
Holcberg, J. S., 21:231-49
Hollenberg, N. K., 19:559-82
Holohan, P. D., 23:65-85
Hook, J. B., 19:491-509
Howard, B. D., 20:307-36
Hughes, J., 19:245-67

I

Inscoe, M. N., 22:297-320
Israli, Z. H., 19:25-52
Iversen, L. L., 23:1-28

J

Jacobs, S., 23:461-79
Jamasbi, R., 21:133-63
Janssen, P. A. J., 23:279-301
Johnson, E. M., 21:417-29

K

Katz, A. M., 22:413-34
Kaufman, H. E., 20:415-28
Kiseman, H. M., 20:285-305
Knutsen, J. C., 22:517-54
Kobayashi, G. S., 23:303-31
Kosterlitz, H. W., 19:1-12
Krebs, E. G., 20:363-88
Kuo, J. F., 19:341-55
Kushner, W., 19:105-27

L

Lagunoff, D., 23:331-51
Lambert, J. J., 23:505-39
Lampe, K. F., 19:85-104
Lang, M. A., 21:431-62

Lange, L. G., 22:115-43
 Latic, V. G., 19:357-92
 Law, P. Y., 20:201-34
 Lawrence, L. J., 23:413-38
 Leader, B., 20:415-28
 Lefkowitz, R. J., 20:581-608
 Lemberger, L., 20:151-72
 Lewis, R. V., 23:353-72
 Lien, E. J., 21:31-61
 Light, W., 23:595-615
 Lindstrom, J., 20:337-62
 Loh, H. H., 20:201-34
 Loutzenhiser, R., 23:373-96
 Lu, A. Y. H., 20:513-31

M

Maren, T. H., 22:1-18,
 23:439-59
 Martin, T. W., 23:331-51
 McCann, S. M., 22:491-515
 McEwen, B. S., 22:555-98
 McGiff, J. C., 21:479-509
 McGovern, T. P., 22:297-320
 McGuire, M. T., 22:643-61
 McMahon, F. G., 19:469-90
 Medoff, G., 23:303-31
 Meites, J., 21:295-322
 Melamed, B., 22:383-412
 Merigan, W. H., 19:357-92
 Messineo, F. C., 22:413-34
 Metzger, H., 19:427-45
 Milks, M., 22:145-66
 Minchin, R. F., 23:217-38
 Mirkin, B. L., 19:285-322
 Miwa, G. T., 20:513-31
 Mode, A., 23:259-78
 Morley, J. S., 20:81-110
 Mossman, B., 23:595-615
 Murphy, P. J., 20:609-21

N

Neal, R. A., 22:321-39
 Nebert, D. W., 21:431-62
 Negishi, M., 21:431-62
 Nettesheim, P., 21:133-63
 Neu, H. C., 22:599-642
 Nickander, R., 19:469-90

Niemegoers, C. J. E.,
 23:279-301
 Norstedt, G., 23:259-78

O

O'Dea, R. F., 19:285-322
 Okey, A. B., 21:431-62
 Okun, R., 21:597-604
 Olsen, R. W., 22:245-77
 Ortiz de Montellano, P. R.,
 23:481-503

P

Parker, C. W., 21:113-32
 Parmley, W. W., 20:475-512
 Parrillo, J. E., 19:179-201
 Parsons, B., 22:555-98
 Peters, G., 19:323-45
 Plimmer, J. R., 22:297-320
 Poland, A., 22:517-54
 Prasad, A. S., 19:393-426
 Prescott, L. F., 23:87-101
 Pressman, B. C., 22:465-90
 Proctor, B. L., 23:171-92

R

Radomski, J. L., 19:129-57
 Raleigh, M. J., 22:643-61
 Raskin, N. H., 21:463-78
 Read, G., 23:331-51
 Reidenberg, M. M., 20:45-54
 Resnick, R. B., 20:463-74
 Ridolfo, A. S., 19:469-90
 Robins, R. K., 20:259-84
 Roch-Ramel, F., 19:232-45
 Ross, C. R., 23:65-85
 Roth, S. H., 19:159-78
 Routledge, P. A., 19:447-68
 Russell, R. W., 22:435-63

S

Salomon, M. R., 21:251-64
 Sanders, C. C., 19:53-83
 Sanders, W. E. Jr., 19:53-83
 Sanyal, G., 23:439-59

Saunders, R. N., 22:279-95
 Schuyten-Reznick, E.,
 20:429-39

Scribaine, A., 19:269-84
 Segaloff, A., 20:429-39
 Shand, D. G., 19:447-68
 Sibley, D. R., 21:357-91
 Sidwell, R. W., 20:259-84
 Smith, R. A., 20:259-94
 Sobel, B. E., 22:115-43
 Sonntag, W. E., 21:295-322
 Squire, L. R., 21:323-56
 Starke, K., 21:7-30
 Stern, A. S., 353-72
 Su, C., 23:397-411
 Sullivan, H. R., 20:609-21
 Szeto, H. H., 22:221-43

T

Terenius, L., 22:193-220
 Thoenen, H., 21:205-29
 Tomatis, L., 19:511-30
 Toothaker, R. D., 20:173-99
 Topping, D. C., 21:133-63
 Torretti, J., 22:167-192

V

Van Breemen, C., 23:373-96
 Vedin, J. A., 23:29-44
 Voorhees, J. J., 20:235-57

W

Washton, A. M., 20:463-74
 Watkins, J. C., 21:165-204
 Way, E. L., 19:583-88;
 20:553-79, 623-30;
 21:605-13; 22:663-71,
 23:649-56
 Wei, E., 23:595-615
 Weisburger, J. H., 21:393-416
 Welling, P. G., 20:173-99
 Wilhelmsson, C. E., 23:29-44
 Williams, G. M., 21:393-416
 Williams, R. L., 20:389-413

Z

Zimmerman, T. J., 20:415-28

CHAPTER TITLES, VOLUMES 19-23

PREFATORY CHAPTERS

The Best Laid Schemes O'Mice an' Men	H. W. Kosterlitz	19:1-12
Gang Aft Agley	H. K. F. Blaschko	20:1-14
My Path to Pharmacology		
Two Pharmacological Traditions: Notes from Experience	K. K. Chen	21:1-6
Great Expectations	T. H. Maren	22:1-18

ALLERGY AND DRUG SENSITIVITY

The Pharmacological Control of Immediate Hypersensitivity	J. C. Foreman	21:63-81
Agents that Release Histamine from Mast Cells	D. Lagunoff, T. W. Martin, G. Read	23:331-51

ANESTHETICS, ANALGESICS, AND ANTI-INFLAMMATORY AGENTS

Physical Mechanisms of Anesthesia	S. H. Roth	19:159-78
Nonsteroidal Anti-Inflammatory Agents	R. Nickander, F. G. McMahon, A. S. Ridolfo	19:469-90
Metal Ion Interactions with Opiates	D. B. Chapman, E. L. Way	20:553-79
Assessment of Narcotic Antagonists in the Treatment of Opioid Dependence	R. B. Resnick, E. Schuyten-Resnick, A. M. Wahton	20:463-74
Neurochemical Basis of Acupuncture Analgesia	J. S. Han, L. Terenius	22:193-220
Biosynthesis of the Enkephalins and Enkephalin-Containing Polypeptides	R. V. Lewis, A. S. Stern	23:353-72
New Peripherally-Acting Oral Analgesic Agents	S. A. Cooper	23:617-47

ANTIMICROBIAL, ANTIVIRAL, AND ANTIPARASITIC CHEMOTHERAPY

Toxicity of Antibacterial Agents: Mechanism of Action on Mammalian Cells	W. E. Sanders, Jr., C. C. Sanders	19:53-83
Antiviral Mechanisms of Action	R. A. Smith, R. W. Sidwell, R. K. Robins	20:259-84
The in vitro Activity, Human Pharmacology, and Clinical Effectiveness of New β -lactam Antibiotics	H. C. Neu	22:599-42
Antifungal Agents Useful in Therapy of Systemic Fungal Infections	G. Medoff, J. Brajtburg, G. S. Kobayashi	23:303-31

AUTONOMIC PHARMACOLOGY

β -Adrenoceptor Blocking Drugs in Hypertension	A. Scriabine	19:269-84
Radioligand Binding Studies of Adrenergic Receptors: New Insights into Molecular and Physiological Regulation	B. B. Hoffman, R. J. Lefkowitz	20:581-608
Presynaptic Receptors	K. Starke	21:7-30
Target Cells, Biological Effects, and Mechanism of Action of Nerve Growth Factor and Its Antibodies	G. P. Harper, H. Thoenen	21:205-29
Insulin Receptors	S. Jacobs, P. Cuatrecasas	23:461-79

BEHAVIORAL AND PSYCHOPHARMACOLOGY

- | | | |
|--|---|-----------|
| Behavioral Effects of Carbon Monoxide on Animals and Man | V. G. Laties, W. H. Merigan | 19:357-92 |
| The Pharmacology of Memory: A Neurobiological Perspective | L. R. Squire, H. P. Davis | 21:323-56 |
| Sociopharmacology | M. T. McGuire, M. J. Raleigh, G. L. Brammer | 22:643-61 |
| Cholinergic Systems in Behavior: The Search for Mechanisms of Action | R. W. Russell | 22:435-63 |

CANCER CHEMOTHERAPY AND IMMUNOPHARMACOLOGY

- | | | |
|---|---------------------------------|-----------|
| Ethical Considerations in Cancer Chemotherapy | E. J. Freireich | 19:547-57 |
| Pharmacological Receptor Determination in Endocrine Therapy of Breast Cancer | A. Segaloff | 20:429-39 |
| Recent Approaches to the Treatment of Acute Lymphocytic Leukemia in Childhood | J. S. Holcenberg, B. M. Camitta | 21:231-49 |
| Superoxide Radical: An Endogenous Toxicant | I. Fridovich | 23:239-57 |

CARDIOVASCULAR PHARMACOLOGY

- | | | |
|---|--|------------|
| Salt in Hypertension and the Effects of Diuretics | E. D. Freis | 19:13-23 |
| Vasodilator Therapy for Chronic Heart Failure | K. Chatterjee, W. W. Parmley | 20:475-512 |
| Cardiovascular Control by Cholinergic Mechanisms in the Central Nervous System | H. E. Brezenoff, R. Giuliano | 22:341-81 |
| The Interaction of Drugs with the Sarcoplasmic Reticulum | L. Herbet, A. M. Katz, F. Messineo | 22:413-34 |
| Pharmacological Salvage of Myocardium | L. G. Lange, B. E. Sobel | 22:115-43 |
| Pharmacology and Toxicology of the Monovalent Ionophores | B. C. Pressman, M. Fahim | 22:465-90 |
| Beta Receptor Blocking Agents in the Secondary Prevention of Coronary Heart Disease | J. A. Vedin, C. E. Wilhelmsson | 23:29-44 |
| Mechanisms of Calcium Antagonist-Induced Vasodilation | C. Cauvin, R. Loutzenhiser, C. Van Breemen | 23:373-96 |
| Cardiovascular Effects of Endogenous Opiate Systems | J. W. Holaday | 23:541-94 |

CLINICAL TOXICOLOGY AND DRUG INTERACTIONS

- | | | |
|---|---------------------------------------|-----------|
| Food and Drug Interactions | C. J. Carr | 22:19-29 |
| Comparative Toxicology of Chlordecone (Kepone) in Humans and Experimental Animals | P. S. Guzelian | 22:89-113 |
| The Treatment of Acetaminophen Poisoning | L. F. Prescott, J. A. J. H. Critchley | 23:87-101 |

COMPARATIVE PHARMACOLOGY

- | | | |
|--|---|------------|
| Insect Attractants | J. R. Plimmer, M. N. Inscoc, T. P. McGovern | 22:297-320 |
| The Activity of Sulfonamides and Anions Against the Carbonic Anhydrases of Animals, Plants, and Bacteria | T. H. Maren, G. Sanyal | 23:439-59 |

ELECTROLYTES AND MINERAL METABOLISM

- | | | |
|---|--------------|------------|
| Clinical, Biochemical, and Pharmacological Role of Zinc | A. S. Prasad | 19:393-426 |
|---|--------------|------------|

710 CHAPTER TITLES

ENDOCRINE PHARMACOLOGY

- | | | |
|---|---|------------|
| Mechanisms of Glucocorticoid Action on Immune Processes | J. E. Parrillo, A. S. Fauci | 19:179-201 |
| Hypothalamic Hypophysiotropic Hormones and Neurotransmitter Regulation: Current Views | J. Meites, W. E. Sonntag | 21:295-322 |
| Central Control of Prolactin and Estrogen Receptors in Rat Liver—Expression of a Novel Endocrine System, the Hypothalamo-Pituitary-Liver Axis | J.-Å. Gustafsson, A. Mode, G. Norstedt, P. Eneroth, T. Höfält | 23:259-78 |
| Physiology and Pharmacology of LHRH and Somatostatin | S. M. McCann | 22:491-515 |
| Gonadal Steroid Action on the Brain: Neurochemistry and Neuropharmacology | B. S. McEwen, B. Parsons | 22:555-98 |

ENVIRONMENTAL AND INDUSTRIAL PHARMACOLOGY AND TOXICOLOGY

- | | | |
|--|--|------------|
| The Primary Aromatic Amines: Their Biological Properties and Structure-Activity Relationships | J. L. Radomski | 19:129-57 |
| The Predictive Value of Rodent Carcinogenicity Tests in the Evaluation of Human Risks | L. Tomatis | 19:511-30 |
| Information Retrieval in Toxicology | H. M. Kissman | 20:285-305 |
| Host and Environmental Factors Enhancing Carcinogenesis in the Respiratory Tract | P. Nettesheim, D. C. Topping, R. Jamashi | 21:133-63 |
| Screening for Teratogenic Hazards: Nature of the Problems | E. M. Johnson | 21:417-29 |
| Organophosphorus Ester-Induced Delayed Neurotoxicity | M. B. Abou-Donia | 21:511-48 |
| Neurotransmission in the Auditory System: A Primer for Pharmacologists | P. S. Guth, B. Melamed | 22:383-412 |
| Toxicology of Thiono-Sulfur Compounds | R. A. Neal, J. Halpert | 22:321-39 |
| 2,3,7,8-Tetrachlorodibenzo- <i>p</i> -dioxin and Related Halogenated Aromatic Hydrocarbons: Examination of the Mechanism of Toxicity | A. Poland, J. C. Knutson | 22:517-54 |
| DMSA and DMPS—Water Soluble Antidotes for Heavy Metal Poisoning | H. V. Aposhian | 23:193-215 |

GASTROINTESTINAL PHARMACOLOGY

- | | | |
|-------------------------------------|--|------------|
| H-2 Histamine Receptors | B. I. Hirschowitz | 19:203-44 |
| Pharmacology of Antidiarrheal Drugs | F. Awouters, C. J. E. Niemegeers, P. A. J. Janssen | 23:279-301 |

HISTORY AND HIGHLIGHTS OF PHARMACOLOGY

MECHANISMS OF ACTION OF DRUGS AND CHEMICALS

- | | | |
|--|--|-----------|
| Early Molecular Events in Antigen-Antibody Cell Activation | H. Metzger | 19:427-45 |
| Psoralen Photochemotherapy of Cutaneous Disorders | T. F. Anderson, J. J. Voorhees | 20:235-57 |
| Neurotoxins That Act on Voltage-Sensitive Sodium Channels in Excitable Membranes | W. A. Catterall | 20:15-43 |
| Protein Phosphorylation Catalyzed by Cyclic AMP-Dependent and Cyclic GMP-Dependent Protein Kinases | D. B. Glass, E. G. Krebs | 20:363-88 |
| Mechanism of Action of Barbiturates | I. K. Ho, R. A. Harris | 21:83-111 |
| Genetic Investigation of Adenylate Cyclase: Mutations in Mouse and Man | Z. Farfel, M. R. Salomon, H. R. Bourne | 21:251-64 |
| Angiotensin Converting Enzyme (ACE) Inhibitors | M. J. Antonaccio | 22:57-87 |

Asbestos: Mechanisms of Toxicity and Carcinogenicity in the Respiratory Tract	B. Mossman, W. Light, E. Wei	23:595-615
METABOLIC FATE OF DRUGS AND CHEMICALS		
Correlation of Pharmacological Effects with Plasma Levels of Antihypertensive Drugs in Man	Z. H. Israili	19:25-52
Presystemic Drug Elimination	P. A. Routledge, D. G. Shand	19:447-68
Molecular Properties and Biological Functions of Microsomal Epoxide Hydrase	A. Y. H. Lu, G. T. Miwa	20:513-31
Genetic Mechanisms Controlling the Induction of Polysubstrate Monooxygenase (P-450) Activities	D. W. Nebert, H. J. Eisen, M. Negishi, M. A. Lang, L. M. Hjelmeland, A. B. Okey	21:431-62
The Actions and Metabolic Fate of Disulfiram	D. I. Eneanya, J. R. Bianchini, D. O. Duran, B. D. Andersen	21:575-96
Localization of Metabolic Activation and Deactivation Systems in the Lung: Significance to the Pulmonary Toxicity of Xenobiotics	R. F. Minchin, M. R. Boyd	23:217-38
Suicidal Destruction of Cytochrome P-450 During Oxidative Drug Metabolism	P. R. Ortiz de Montellano, M. A. Correia	23:481-503
MISCELLANEOUS		
Advances in Ocular Pharmacology	T. J. Zimmerman, B. Leader, H. E. Kaufman	20:415-28
New Medications—1981	R. Okun	21:597-604
NEUROMUSCULAR PHARMACOLOGY		
Biology of Myasthenia Gravis	J. Lindstrom, P. Dau	20:337-62
Drug-Induced Modification of Ionic Conductance at the Neuromuscular Junction	J. J. Lambert, N. N. Durant, E. G. Henderson	23:505-39
NEUROPHARMACOLOGY AND NEUROCHEMISTRY		
Biology of Opioid Peptides	A. Beaumont, J. Hughes	19:245-67
Molecular Mechanisms in the Receptor Action of Benzodiazepines	E. Costa, A. Guidotti	19:531-45
Chemical Pathology of Huntington's Disease	E. D. Bird	20:533-51
Pharmacology of Central Serotonin Neurons	R. W. Fuller	20:111-27
The Role of Membrane Lipids in Receptor Mechanisms	H. H. Loh, P. Y. Law	20:201-34
Excitatory Amino Acid Transmitters	J. C. Watkins, R. H. Evans	21:165-204
Receptor Adaptations to Centrally Acting Drugs	L. Creese, D. R. Sibley	21:357-91
Pharmacology of Migraine	N. H. Rasikin	21:463-78
Toxicity and Metabolism of the Neurotoxic Hexacarbons <i>n</i> -Hexane, 2-Hexanone, and 2,5-Hexanedione	D. Couri, M. Milks	22:145-66
Pharmacology of Brain Epinephrine Neurons	R. W. Fuller	22:31-55
Drug Interactions at the GABA Receptor-Ionophore Complex	R. W. Olsen	22:245-77
Nonopioid Peptides in Mammalian CNS	L. L. Iversen	23:1-28
The Endorphins: A Growing Family of Pharmacologically Pertinent Peptides	F. E. Bloom	23:151-70
PERINATAL PHARMACOLOGY		
Determinants of Drug Disposition and Effect in the Fetus	T. P. Green, R. F. O'Dea, B. L. Mirkin	19:285-322

712 CHAPTER TITLES

Perinatal Renal Pharmacology	J. B. Hook, M. D. Bailie	19:491-509
Pharmacokinetics in the Ovine Maternal-Fetal Unit	H. H. Szeto	22:221-43
PHARMACOKINETICS, DRUG ABSORPTION, AND EXCRETION		
Predicting Steady State Serum Concentrations of Drugs	D. J. Greenblatt	19:347-56
Pharmacologic Interruption of the Remin-Angiotensin System	N. K. Hollenberg	19:549-82
Stable Isotopes in Pharmacokinetic Studies	P. J. Murphy, H. R. Sullivan	20:609-21
The Effect of Food on Drug Bioavailability	R. D. Toothaker, P. G. Welling	20:173-99
Drug Pharmacokinetics in Cardiac and Hepatic Disease	R. L. Williams, L. Z. Benet	20:389-413
Structure-Activity Relationships and Drug Disposition	E. J. Lien	21:31-61
PHARMACOLOGICALLY ACTIVE NATURAL SUBSTANCES		
Toxic Fungi	K. F. Lampe	19:85-104
Biogenic Amine-Aldehyde Condensation Products: Tetrahydroisoquinolines and Tryptolines (β -Carbolines)	R. Deitrich, V. Erwin	20:55-80
Effects and Mechanisms of Polypeptide Neurotoxins That Act Presynaptically	B. D. Howard, C. B. Gundersen Jr.	20:307-36
Potential Therapeutic Usefulness of Marijuana	L. Lemberger	20:1511-72
Prostaglandins, Prostacyclin, and Thromboxanes	J. C. McGiff	21:479-509
Purineric Neurotransmission and Neuromodulation	C. Su	23:397-411
Mechanisms of Selective Action of Pyrethroid Insecticides	J. E. Casida, D. W. Gammon, A. H. Glickman, L. J. Lawrence	23:413-38
RENAL PHARMACOLOGY		
Microperfusion Techniques as a Tool in Renal Pharmacology	F. Roch-Ramel, G. Peters	19:323-45
Drug Therapy in Renal Failure	M. M. Reidenberg, D. E. Drayer	20:45-54
Sympathetic Control of Renin Release	J. Torretti	22:167-92
Pharmacodynamic Considerations in the Use of Diuretics	D. C. Brater	23:45-62
Transport of Organic Anions and Cations in Isolated Renal Plasma Membranes	C. R. Ross, P. D. Holohan	23:65-85
REVIEW OF REVIEWS		
Review of Reviews	E. L. Way	19:583-88 20:623-30 21:605-13 22:663-71 23:649-56
SMOOTH MUSCLE PHARMACOLOGY		
The Electrogenic Na^+ , K^+ -Pump in Smooth Muscle: Physiologic and Pharmacologic Significance	W. W. Fleming	20:129-49
Prostaglandins and Nonsteroidal Antiinflammatory Drugs in Dysmenorrhea	W. Y. Chan	23:131-49
STRUCTURE-ACTIVITY RELATIONSHIPS AND MEDICINAL CHEMISTRY		
Structure-Activity Relationships of Enkephalin-Like Peptides	J. S. Morley	20:81-110
Ethacrynic Acid and Related Diuretics: Relationship of Structure to Beneficial and Detrimental Actions	D. A. Koechel	21:265-93

Structure-Activity Relationships of Dopamine Agonists	J. G. Cannon	23:103-30
TECHNIQUES		
Clinical Pharmacokinetics	A. J. Atkinson Jr., W. Kushner	19:105-27
Efficient Analysis of Experimental Observations	W. J. Dixon	20:441-62
Radioimmunoassay	C. W. Parker	21:113-32
Systematic Carcinogen Testing Through the Decision Point Approach	G. M. Williams, J. H. Weisburger	21:393-416
Stereology: Applications to Pharmacology	R. P. Bolender	21:549-73
Evaluation of Platelet-Inhibiting Drugs in Models of Atherosclerosis	R. N. Saunders	22:279-95
Recent Developments in Mass Spectrometry for the Analysis of Complex Mixtures	B. L. Proctor	23:171-92